

REMARKS

Claims 1-23 are pending. Claims 1, 13, and 17 have been amended for clarification purposes.

Reconsideration of the application is respectfully requested for the following reasons.

In the Office Action, claims 1-20 were rejected under 35 U.S.C. §101 for reciting unpatentable subject matter. Specifically, the Examiner indicated that while the claims recite non-functional descriptive material, but are interpreted as software per se, not tangibly embodied on a computer readable medium. To overcome the §101 rejection, claims 1, 13, and 17 have been amended to recite a method “implemented by code tangibly embodied within a computer-readable medium.” These methods further generate a useful, concrete and tangible result through the formation of a synthetic key frame which, for example, may be used by a browser to perform a search for multimedia information. This specific application of the synthetic key frame is recited in new claims 21-23. Moreover, the invention may have application in the field of MPEG-7 encoding and therefore it is apparent to one skilled in the art that at least some embodiments of the invention as defined in the presently pending claims operate using hardware and software.

Applicants respectfully submit that the foregoing amendments are sufficient to overcome the §101 rejection.

Claims 1-20 were rejected under 35 U.S.C. §103(a) for being obvious in view of a Gibbon-Nelson combination. This rejection is respectfully traversed for the following reasons.

Claim 1 recites “calculating importance measures according to weights for each of the extracted text areas.” The Gibbon patent does not teach or suggest these features. The Gibbon patent discloses a method for automatically indexing and retrieving multimedia information from a database. In order to retrieve this information, the Gibbon method separates a data stream into audio, visual, and text components.¹ However, unlike claim 1, only the audio or video events are subjected to a weighting process. See column 8 which discloses that feature extraction unit 340 extracts features of underlying audio events (news vs. commercials) for segmentation. During segmentation, weights are then generated for the audio information based, for example, on a Gaussian Mixture Model. The Gibbon patent does not teach or suggest calculating importance measurements according to weights for each of the extracted text areas as recited in claim 1. Moreover, as indicated by the Examiner, the Gibbon patent also fails to teach or suggest the steps of selecting areas to be synthesized and synthesizing a key frame as further recited in claim 1.

The Nelson patent does not teach or suggest the features of claim 1 missing from the Gibbon patent. The Nelson patent discloses a method for retrieving documents from a database containing text and image information. The method includes separating a multimedia item into corresponding text, image, video, and audio portions. These portions are then combined with one or more logical operators to form a search statement for searching a database. The Nelson

¹ The Gibbon method extracts three classes of semantics: news stories, augmented stories, and a news summary of the day. To distinguish news from stories, the frequency of each token word is weighted by a standard frequency of the same word computed from a corpus of broadcast news data collected from NBC Nightly News in 1997. The higher the frequency of common words in the two blocks, the more similar the content of the blocks. A

patent, however, does not teach or suggest “calculating importance measures according to weights for each of the extracted text areas” as recited in claim 1. Absent these importance measures, Nelson also does not teach or suggest “selecting a number of text areas to be synthesized based on the importance measures in the order of higher importance” and then “synthesizing the number of text areas into a synthetic key frame.”

In comparing the Nelson patent to claim 1, the Examiner took the position that column 6, lines 5-50 of Nelson provides the selecting step of claim 1. However, this portion of Nelson only discloses combining query operators with one or more words found in text extracted during execution of the Nelson method. See, for example, Figure 3 where a word in extracted text (e.g., sailboat) is combined with one or more images. The resulting search statement is then used as a basis for searching multimedia information and a database.

Unlike claim 1, the construction of such a search statement does not involve “selecting a number of text areas to be synthesized based on the importance measures in the order of higher importance” as recited in claim 1. Nelson also does not synthesize this number of text areas into a synthetic key frame as is also recited in claim 1. In fact, Nelson does not even disclose the creation of a synthetic key frame of any type, let alone the one constructed in the manner recited in claim 1.

For at least these reasons, it is respectfully submitted that claim 1 and its dependent claims are patentably distinguishable from a Gibbon-Nelson combination.

threshold is experimentally set up to determine the story boundaries. (column 10, line 41 - column 12, line 5).

Claim 6 separately recites that the “weights are determined in proportion to a size of the text area, a mean text size of the text area and a display segmentation of a text.” These features are not taught or suggested by the cited references, whether taken alone or in combination. For example, the Gibbon patent discloses a text event segmentation unit 405 which segments an input stream into blocks of text. The Gibbon patent, however, does not teach or suggest calculating importance measures according to weights which are determined in proportion to a size of the text area, a mean text size of the text area and a display duration of the text. Absent a teaching or suggestion of these features, it is respectfully submitted that claim 6 is non-obvious and thus patentable over a Gibbon-Nelson combination.

Claim 9 recites that the “weight increases as the size of the text area, the mean text size in the text area or the display duration time of the text increases.” These features are not taught or suggested by the cited references whether taken alone or in combination. In the Office Action, the Examiner points to the disclosure in Gibbon of a window that plays back streaming content to a user. In this window, timing information is shown. However, Gibbon does not teach or suggest generating a synthetic key frame of a video text, by increasing weights as the size of the text area, the mean text size of the text area or the display duration of the text increases. Applicants respectfully submit that these differences further distinguish claim 9 from the cited combination.

Claim 13 recites features similar to those which patentably distinguish claim 1 from the cited combination. For example, claim 13 recites “calculating importance measures of the text areas by applying the weights”; and “selecting a number of text areas to be synthesized based on

the importance measures in the order of higher importance.” These features are not taught or suggested by the Gibbon or Nelson patents, whether taken alone or in combination. Claim 13 further recites synthesizing the text areas into a synthetic key frame. These features are also not taught or suggested. For at least these reasons, it is respectfully submitted that claim 13 and its dependent claims are allowance.

Claim 17 recites “adding values obtained by multiplying the weight determining factors with corresponding weights to calculate an importance measures for the extracted text areas.” These features are not taught or suggested by the cited references, whether taken alone or in combination. For example, neither reference teaches or suggests calculating importance measures, let alone doing so by adding values obtained by multiplying the weight determining factors with corresponding weights. Absent a teaching or suggestion of these features, it is respectfully submitted that claim 17 and its dependent claims are allowable.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Samuel W. Ntiros, at the telephone number listed below.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

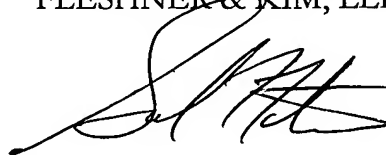
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

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Amendment dated February 21, 2006
Reply to Office Action dated October 14, 2005

Docket No. HI-0074

concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and
please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP

A handwritten signature in black ink, appearing to be 'D. Kim', written over the firm name.

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